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LUMBER GRADING IN THE PACIFIC  
NORTHWEST<sup>1</sup>

AN interesting phase of the organization of trade is to be found in the systems of grading that have been adopted by the lumber industry in the great timber producing sections of America. In the Pacific Northwest the system is a growth of the last ten years; and tho complete unanimity on the part of the various mills has not yet been obtained, an enormous quantity of lumber is annually shipped only after the issuance of a sworn certificate of grade. It is mainly to the cargo trade that the system applies. Recently, however, some attention has been given to rail shipments.

The need of a system of grading was not keenly felt in the pioneering stages of the industry. In the early days the lumber was commonly loaded on the ships as it came from the mills. In some instances yards were established at the port of destination, and from these the lumber was distributed. In other cases it was simply discharged from the vessels, sorted into lots, and sold at auction. Such a system could not, of course, long continue without some modification, due to the knowledge that the manufacturers acquired as to the demands of the different markets. Later, when the reputation of the Douglas Fir, or, as it is sometimes called, the Oregon Pine, was established, purchasers would send orders to the mills, stating what sort of lumber they required. For some time the business was, in the main, done directly between the mills and their distant customers; but when the needs of the markets had become well understood and a considerable business had been built up, the "broker," with headquarters at San Francisco, made his appearance.

<sup>1</sup> For most of the facts here given the author wishes to acknowledge his indebtedness to President E G Ames and Secretary Fred W Alexander, of the Pacific Lumber Inspection Bureau, and Secretary Frederick D Becker, of the Pacific Coast Shippers' Association

The lumber broker is not always what the name implies. It is said by some of the manufacturers that he is commonly a speculator, who makes his contracts with the mills at a time when prices are low, hoping to profit by a rise, tho sometimes ostensibly doing a commission business. However this may be, one of the chief results of his activity is to intensify competition. The customer who buys lumber for his own use naturally wishes to get it on the most favorable terms possible; and the broker is a specialist in buying, and can more largely devote his energies to it.

Where no system of grading is adopted for a commodity that varies considerably in quality, competition is likely to put upon the seller great pressure to provide goods somewhat better than his contract, strictly interpreted, would call for. This pressure seems to have been keenly felt by the lumber mills. The new mills, in particular, according to President Ames, would sometimes establish in this way a reputation that they found very difficult to maintain; and such competition was injurious to the older ones. A more important reason, perhaps, why competition should strongly take this form is due to the nature of the lumber trade. In this section of the country the lumber is commonly put on the ships while it is still more or less green; the distances to be travelled are great; the means of transportation are slow; and considerable variations of temperature, humidity, and the like are experienced. Under such circumstances there is likely to be some deterioration of the product. Moreover, the time that must elapse during the voyage is sufficiently great to permit important changes in the market, and the purchaser may regret his bargain by the time the shipment reaches its destination. In such cases a claim that the lumber is not so good as that ordered is likely to be filed; and as it is difficult, if not impossible, for the mill to check up the shipment, a reply to such a claim is not easy.

To meet this situation the manufacturers wished to have some system whereby the sale could be regarded as completed when the lumber was put on board the ship, no re-

sponsibility being assumed for what might happen on the voyage. Accordingly there was formed, in 1903, as a branch of the Pacific Coast Lumber Manufacturers' Association, an organization known as the Pacific Lumber Inspection Bureau; the work of this bureau being in the hands of a committee representing the various districts interested. In 1907 the Bureau was incorporated as a separate business organization, its shareholders being the various mills that wish to make use of its services. During the summer of 1911 there was a merger, under the name of the West Coast Lumber Manufacturers' Association, of the three important organizations that had represented the general interests of the trade in this section of the country — the Pacific Coast, the Oregon and Washington, and the Southwestern Washington Lumber Manufacturers' Associations — and the Pacific Lumber Inspection Bureau took over the work of the inspection bureau of the two associations last named. Tho there are still a few mills that have declined to become members of the Bureau, it now includes all but two of the largest cargo mills within its territory, which comprehends the western parts of British Columbia, Washington, and Oregon. Among its members are a number of mills that are not connected with the West Coast Lumber Manufacturers' Association.

The work of the Bureau is what its name implies — the inspection of lumber. It publishes schedules of grades and dimensions, for export and domestic trade, and lists of prices to serve as standards of relative values and bases for the quotation of prices. Members of the Bureau are not, however, bound to make use of these schedules, as the Bureau will inspect according to any standard grading rules, or even according to the terms of a special contract.

The territory of the Bureau is divided into seven districts, one in British Columbia, four in Washington, and two in Oregon. Each of these is under the care of a district supervisor, who is subject to the chief supervisor. The actual work of inspection is done by local inspectors, or, as they are sometimes called, surveyors or tallymen. When the

work is completed the inspector provides a sworn certificate of grade, which is countersigned by the district supervisor, presented to the shipper, and by him sent to the consignee. Until recently the inspectors were employees of the separate mills, but were licensed by the Bureau. It was the policy of the Bureau to keep a careful record of the name, residence, habits, and experience of the inspectors, and to refuse the countersignature of the supervisor to the certificates of any on whom it felt that it could not rely. Recently, however, the inspectors in a majority of the districts have been made employees of the Bureau, looking to it for their positions and their remuneration. In these cases the Bureau itself collects from the mills the payment for the work of inspection. It will probably not be long before this system is applied to all the districts.

A discussion of lumber inspection in this section of the country would be incomplete without some reference to the Pacific Coast Inspection Bureau, an organization which must not be confused with the Pacific Lumber Inspection Bureau, the former being a department of the Pacific Coast Shippers' Association. While there is some rivalry between the two bureaus, their work is, in the main, of a different character. The Pacific Coast Inspection Bureau is concerned primarily with rail shipments. While it will, upon request, inspect the lumber before it is put on the car (or the ship) and issue a certificate of grade, its chief function is to inspect the lumber after it has reached the purchaser in cases where there is complaint that it is not up to grade. The chief market for Washington lumber is in the Middle West, and the headquarters of this bureau are at Minnesota Transfer, in St. Paul. From this point salaried inspectors cover a large territory in Minnesota and nearby states. Salaried inspectors are available also in Washington, Idaho, Montana, and the Dakotas. In addition there are deputy inspectors, employed on a contingent basis, at a considerable number of points in the United States and Canada, reaching places as far distant as Regina, Sask., and Boston, Mass., where the amount of work to be done is not sufficient to warrant

the employment of an official inspector. In some cases visits are made to the yards of the purchasers, but more commonly samples are sent to the inspectors, whose reports are made on the basis of these samples. If as much as five per cent of the lumber is found to be off-grade the cost of inspection is borne by the shipper; otherwise it is borne by the complainant.

A number of different schedules of grades are published; and until a careful examination is made it is likely to be thought there are several different systems. In the first place, there are four kinds of wood — fir, cedar, spruce, and hemlock — and a different schedule applies to each of these. Separate schedules are published for each of the three classes of shipments — export, domestic (chiefly the cargo trade to California ports), and rail. The key to the situation is to be found in a rather elaborate schedule, covering the different kinds of wood, published by the Associated Bureau of Grades, which represented the three organizations recently united under the name of the West Coast Lumber Manufacturers' Association. This bureau does not provide certificates, its work being described as chiefly educational. Its schedules are very generally taken as the standard. The grades as defined by the others do not differ materially in character from those of the Associated Bureau; but some of the schedules contain grades that others do not. The differences are to be attributed chiefly to the different purposes for which the schedules are issued. The demands of the export market, for example, differ somewhat from those of the California market. In the former case the difficulties of the voyage make it necessary to select lumber which, even tho not thoroly seasoned, is not so green as some of that which is shipped to California.

The chief considerations governing the determination of grade are the way in which the lumber is cut and the defects it contains. Very often, tho not always, a grade is designated by the purpose for which it is intended. As examples may be mentioned "deck plank," "railroad ties," and "flooring no. 1." Such terms as "clears,"

“selects,” “merchantable,” and “common” are applied only to rough lumber. Among the defects considered are knots, pitch pockets, wane, rot.

The number of grades is far too great to permit consideration in detail. A few illustrations, taken from Export List G of the Pacific Lumber Inspection Bureau, which applies only to fir, will perhaps be sufficient to show the nature of the grading.

**Merchantable:** This grade shall consist of sound, strong lumber, free from shakes, large, loose, or rotten knots, and defects that materially impair its strength; well manufactured and suitable for substantial constructional purposes. Will allow slight variations in sawing, sound knots, pitch pockets and sap on corners,  $\frac{1}{8}$  the width and  $\frac{1}{2}$  the thickness or its equivalent. Defects in all cases to be considered in connection with the size of the piece and its general quality. In timber 10×10 inches and over sap shall not be considered a defect. Discoloration through exposure to the elements, other than black sap, shall not be deemed a defect excluding lumber from this grade, if otherwise conforming to Merchantable grade.

**Fir Flooring No. 1.** Edge grain, shall be free from all defects and well manufactured. Angle of grain not more than 45 degrees from vertical.

**Stepping No. 2.** This grade shall show edge grain on face to extent of not less than  $\frac{1}{2}$  its width and conform generally to grade of “Selects.”

The amount of lumber annually inspected by the Pacific Lumber Inspection Bureau has increased greatly, not only as an absolute quantity, but in proportion to the amount shipped and reported to it.<sup>1</sup> In 1904, out of a total of 1,051,201,335 feet, board measure, 405,462,497 feet were inspected. In 1910, the last year for which the figures are available, out of 1,574,119,519 feet, 1,023,884,273 feet were inspected. The inspection of lumber for rail shipments was begun only about two years ago, and the amount inspected is still very small as compared with the total. In 1910 only 5,354,144 feet were inspected. The figures for 1911 are expected to exceed 30,000,000.

<sup>1</sup> I am informed that the amounts reported cover, as far as the Bureau is able to ascertain, the total shipments made.

The system of inspection was established by the manufacturers for their own benefit; but it would appear that, properly and fairly managed, it should be a benefit to all concerned. It is not to be expected that there should be no evils connected with it. Whether or not it should be regarded as an evil that the risk of deterioration during a long voyage must be borne by the buyers is a matter about which it is impossible to speak with confidence. In so far as the system makes contracts clear and definite it would seem to be distinctly good. Of course it is necessary that the certificates of grade be thoroly reliable. The men in charge of the Pacific Lumber Inspection Bureau seem to realize this; and considerable emphasis is laid upon the claim that the certificates are widely accepted as honest and impartial. Some time ago representation on the inspection committee was offered to the Merchants' Exchange of San Francisco; but, for reasons which do not appear, it was not accepted. No matter how fairly the work is done, there are always opportunities for misunderstandings; and rulings that are made by the manufacturers alone are likely to be regarded as interested and arbitrary. It may be doubted, however, whether it is practicable to have an organization representing all parties, especially as regards the export trade. The possibility of government inspection seems to have been thought of at the time the Bureau was organized, but the fact that the competitive territory lies in two states and a Canadian province rendered this plan likewise impracticable. The system of inspection, however, seems to be fairly well established, and it is not improbable that, if serious dissatisfaction should arise, some method will be found by which the work can be done by a more representative organization or an independent one.

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